

CLAIMS

1 1. A method of tunneling operating codes received from an endpoint
2 in a network to a call server, the method comprising the steps of:

3 receiving a command from the call server to notify the call
4 server of the receipt of one or more operating codes from the end-
5 point;

6 confirming the command with the call server; and

7 if and when the operating codes are received from the end-
8 point, encapsulating the operating codes within a message and
9 sending the message to the call server.

1 2. The method of claim 1 wherein the message is a Megaco/H.248
2 notify message.

1 3. A method of tunneling operating codes received from a call server
2 to an endpoint in a network, the method comprising the steps of:

3 receiving a command from the call server, the command in-
4 cluding one or more operating codes encapsulated within;

5 confirming the command with the call server; and

6 de-encapsulating the operating codes within the command and
7 forwarding the operating codes to the endpoint.

1 4. The method of claim 3 wherein the command is formatted accord-
2 ing to Megaco/H.248 protocol.

1 5. A method of receiving operating codes from an endpoint in a net-
2 work, the method comprising the steps of:

3 sending a command to a media gateway to send a notification
4 if and when one or more operating codes are received by the media
5 gateway from the endpoint; and
6 receiving a message from the media gateway, the message
7 having the one or more operating codes encapsulated within.

1 6. The method of claim 5 wherein the message is a Megaco/H.248
2 notify message.

1 7. A method of sending operating codes to an endpoint in a network,
2 the method comprising the steps of:

3 encapsulating one or more operating codes within a command;
4 and
5 sending the command to a media gateway to be forwarded to
6 the endpoint so that the operating codes are tunneled to the endpoint.

1 8. The method of claim 7 wherein the command is formatted accord-
2 ing to Megaco/H.248 protocol and a confirmation of the command is received
3 from the media gateway.

1 9. A computer program product for enabling a media gateway to tun-
2 nel operating codes between a call server and an endpoint in a network, the
3 computer program product having a media with a computer program em-
4 bodied thereon, the computer program comprising:

5 instructions for receiving commands from the call server, at
6 least some commands including one or more operating codes from
7 the all server encapsulated within;

8 instructions for de-encapsulating the operating codes from the
9 call server;

10 instructions for confirming commands with the call server; and

11 instructions for encapsulating one or more operating codes
12 from the endpoint within a message and sending the message to the
13 call server.

1 10. The computer program product of claim 9 wherein the commands
2 and the message are formatted according to Megaco/H.248 protocol.

1 11. A computer program product for enabling a call server to ex-
2 change operating codes with an endpoint at a media gateway, the computer
3 program product having a media with a computer program embodied
4 thereon, the computer program comprising:

5 instructions for encapsulating one or more operating codes
6 from the call server within a command and sending the command to
7 the media gateway to be forwarded to the endpoint; and

8 instructions for receiving a message from the media gateway,
9 the message having one or more operating codes from the endpoint
10 encapsulated within.

1 12. The computer program product of claim 11 wherein the command
2 and the message are formatted according to Megaco/H.248 protocol.

1 13. Apparatus for tunneling operating codes between a call server
2 and a network endpoint, the apparatus comprising:

3 means for receiving commands from the call server, at least
4 some commands including one or more operating codes from the call
5 server encapsulated within;

6 means for de-encapsulating the operating codes from the call
7 server;
8 means for confirming commands with the call server; and
9 means for encapsulating one or more operating codes from the
10 endpoint within a message and sending the message to the call
11 server.

1 14. Apparatus for controlling an endpoint device connected to a me-
2 dia gateway by exchanging operating codes with the device, the apparatus
3 comprising:

4 means for encapsulating one or more operating codes from the
5 apparatus within a command and sending the command to the media
6 gateway to be forwarded to the device; and

7 means for receiving a message from the media gateway, the
8 message having one or more operating codes from the device encap-
9 sulated within.

1 15. A media gateway comprising:

2 a switching fabric;

3 one or more network interfaces connected to the switching fab-
4 ric; and

5 a computing module connected to the switching fabric for con-
6 trolling the switching fabric to de-encapsulate operating codes from
7 the call server to tunnel the operating codes from the call server to an
8 endpoint, and encapsulate one or more operating codes from the
9 endpoint to tunnel the operating codes from the endpoint to the call
10 server.

1 16. The media gateway of claim 15 wherein the command and the
2 message are formatted according to Megaco/H.248 protocol.

1 17. A programmed computer system having connections for at least
2 one media gateway, the programmed computer system including a computer
3 program comprising:

4 computer program code for encapsulating one or more oper-
5 ating codes from the computer system within a command and sending
6 the command to the media gateway to be forwarded to a network
7 endpoint; and

8 computer program code for receiving a message from the me-
9 dia gateway, the message having one or more operating codes from
10 the endpoint encapsulated within.

1 18. The computer system of claim 17 wherein the command and the
2 message are formatted according to Megaco/H.248 protocol.

1 19. A system for controlling a device connected to an endpoint at a
2 media gateway by exchanging operating codes with the endpoint, the sys-
3 tem comprising:

4 a call server operable to send operating codes to the endpoint
5 encapsulated in commands and to receive operating codes from the
6 endpoint encapsulated in messages; and

7 a media gateway connected to the call server operable to tun-
8 nel operating codes from the call server to the device and from the
9 device to the call server.

1 20. The system of claim 19 wherein the commands and the mes-
2 sages are formatted according to Megaco/H.248 protocol.

1 21. The system of claim 19 wherein the call server further comprises
2 a service control module and a media gateway controller.

- 1 22. The system of claim 20 wherein the call server further comprises
- 2 a service control module and a media gateway controller.

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